MICROSENS
fiber optic solutions

MS400900M

24-Port PoE Injector

User's Manual

Beta 1.02

May 2007

Notice

This manual contents are based on the below table listing software kernel version, hardware version, and firmware version. If the switch functions have any different from the manual contents description, please contact the local sale dealer for more information.

Firmware Version	V1.01
Kernel Version	V1.05
Hardware Version	A5.00

FCC Warning

This Equipment has been tested and found to comply with the limits for a Class-A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CE Mark Warning

This is a Class-A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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CE Mark Warning 1
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Introduction

Power-over-Ethernet (PoE) eliminates the need to run 100/240 VAC power to other devices on a wired LAN. Using Power-over-Ethernet system installers need to run only a single CAT5 Ethernet cable that carries both power and data to each device. This allows greater flexibility in the locating of network devices and significantly decreasing installation costs in many cases.

There are two system components in PoE – the Power Sourcing Equipment (PSE) initiates the connection to the second component, the Powered Device (PD). The current is transmitted over two of the four twisted pairs of wires in a Category-5 cable.

Power-over-Ethernet follows the IEEE 802.3af and is completely compatible with existing Ethernet switches and networked devices. Because the Power Sourcing Equipment (PSE) tests whether a networked device is PoE-capable, power is never transmitted unless a Powered Device is at other end of the cable. It also continues to monitor the channel. If the Powered Device does not draw a minimum current, because it has been unplugged or physically turned off, the PSE shuts down the power to that port. Optionally, the standard permits Powered Devices to signal to the PSEs exactly how much power they need.

Features

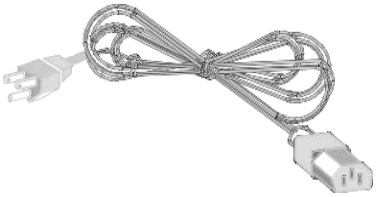
- 24port Power-over-Ethernet Injector with 1x10/100TX for system management
- 400W Fully Power support
- Support 802.3af pre-standard PD
- Support power feeding priority
- Temperature monitoring
- Power limit setting
- TFTP firmware update
- System log
- Configuration up-load and down-load
- SNMP / Web/Console/Telnet management
- Circuit short protect
- Confirms to IEEE802.3 10BASE-T, 802.3u 100BASE-TX and 802.3af Power-over-Ethernet
- Support Redundant Power
- Simple Network Time Protocol (SNTP)
- Simple Mail Transfer Protocol (SMTP)
- DHCP Client support
- SNMP Trap support
- Management IP address security
- Fan fail detect
- Command line support
- Power overloading protect
- Fan detect

Package Contents

Unpack the contents of the 24-port Power-over-Ethernet Injector and verify them against the checklist below.

- 24-port Power-over-Ethernet Injector
- Power Cord
- RS-232 cable
- User Manual
- Software Utility CD-ROM

24-port Power-over-Ethernet Injector



Power Cord

RS-232 Cable

User Manual / Software Utility CD-ROM

Package Contents

Compare the contents of your 24-port Power-over-Ethernet Injector package with the standard checklist above. IF any item is missing or damaged, please contact your local dealer for service.

Hardware Description

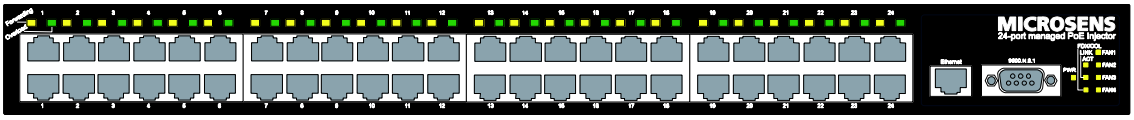
This Section mainly describes the hardware of the 24-port Power-over-Ethernet Injector, and gives a physical and functional overview.

Physical Dimension

The 24-port Power-over-Ethernet Injector physical dimension is:
440mm x 225mm x 44mm (W x D x H)

Front Panel

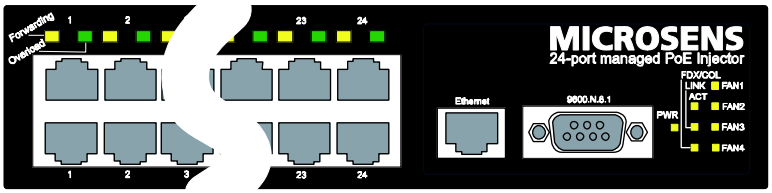
The Front Panel of the 24-port Power-over-Ethernet Injector consists of 24x RJ-45 Ethernet ports for data transmission and 24x RJ-45 Ethernet for data transmission and power out, LED indicators, and one console port. When user connects with PD, please make sure of connecting to the upper row of RJ-45 ports for power out. Otherwise, the PoE function will not work properly.



The Front panel of 24-Port Power-over-Ethernet Injector

LED Indicators

The LED Indicators gives real-time information of systematic operating status. The following table provides descriptions of LED status and their meaning.



LED indicators

LED	Status	Color	Description
PWR	On	Green	Power On
	Off	--	Power is not connected.
FDX/COL	On	Green	The connection is operating in full-duplex mode.
	Blink	Green	Collision of packets occurs.
	Off	--	The connection is operating in half-duplex mode.
LINK	On	Green	The Ethernet port is connecting with the device.
	Off	--	No device attached.
ACT	On	Green	The port is receiving or transmitting data.
	Off	--	No data occurred
FAN1~FAN4	On	Red	The fan failed.
	Off	--	The fan is working functionally.
Forwarding	On	Green	Power is transmitting to the device
	Off	--	Power is not transmitting to the device
Overload	On	Green	Device is overloaded or shorts.
	Off	--	No device attached or power feeding is in good condition.

The Description of LED Indicators

Rear Panel

The 3-pronged power plug is located at the rear Panel of the 24-port Power-over-Ethernet Injector as shown below. The Injector will work with AC in the range 100-240V AC, 50-60Hz and also provides one DC 48V input for the extra power connection support and one DC 48V internal power supply for the power redundant function. The RS-232 DB-9 female connector on rear side is for UPS management.

The Rear Panel of 24-port Power-over-Ethernet Injector

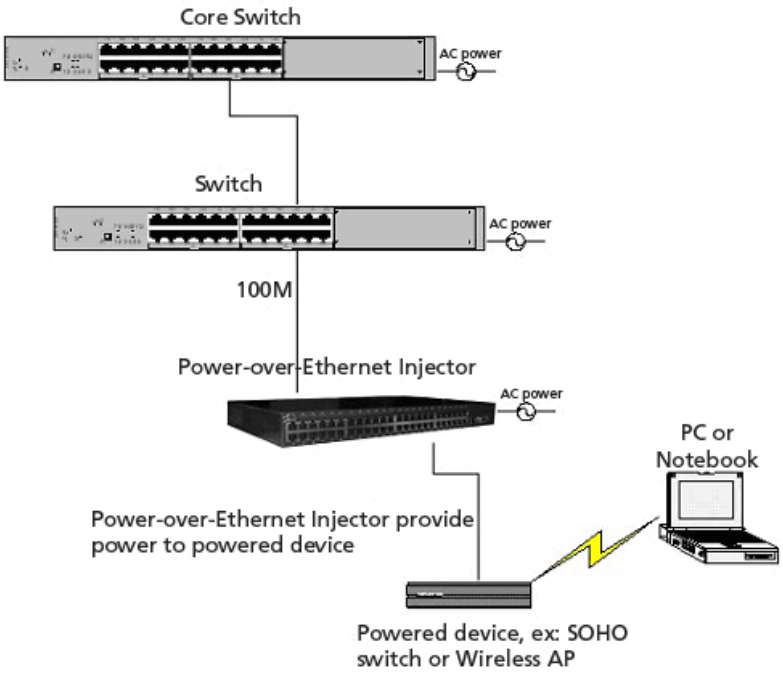
Power On

Connect the power cord to the power socket on the rear panel of the 24-Port Power-over-Ethernet Injector. The other side of power cord connects to the power outlet. The internal power supply of the 24-port Power-over-Ethernet Injector works with voltage in the 100-240 VAC range, frequency 50~60Hz. Check the power indicator on the front panel to see if power is properly supplied.

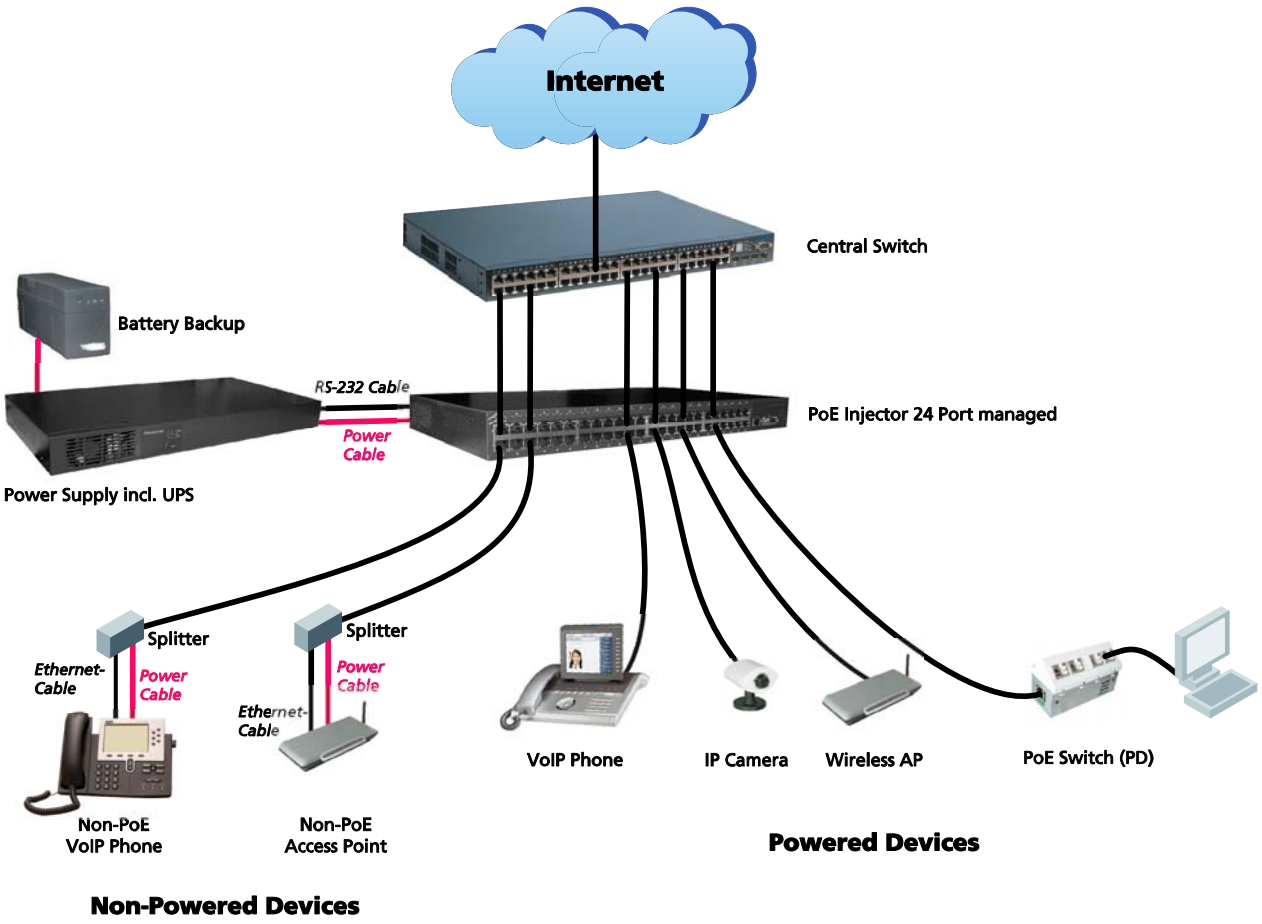
Network Application

The 24-port Power-over-Ethernet Injector can provides power to the PDs that follow the IEEE 802.3af standard in the network. It can solve the problem of position limitation. The network device can be installed in more appropriate position for better performance. The following figure is an example of network application for Power-over-Ethernet Injector.

[Note] When the 24-port Power-over-Ethernet Injector connects with the Cisco Aironet 350, please use **cross over cable** for connecting. For the other brands' devices, please use **non-cross over cable**.



Power-over-Ethernet Injector network application

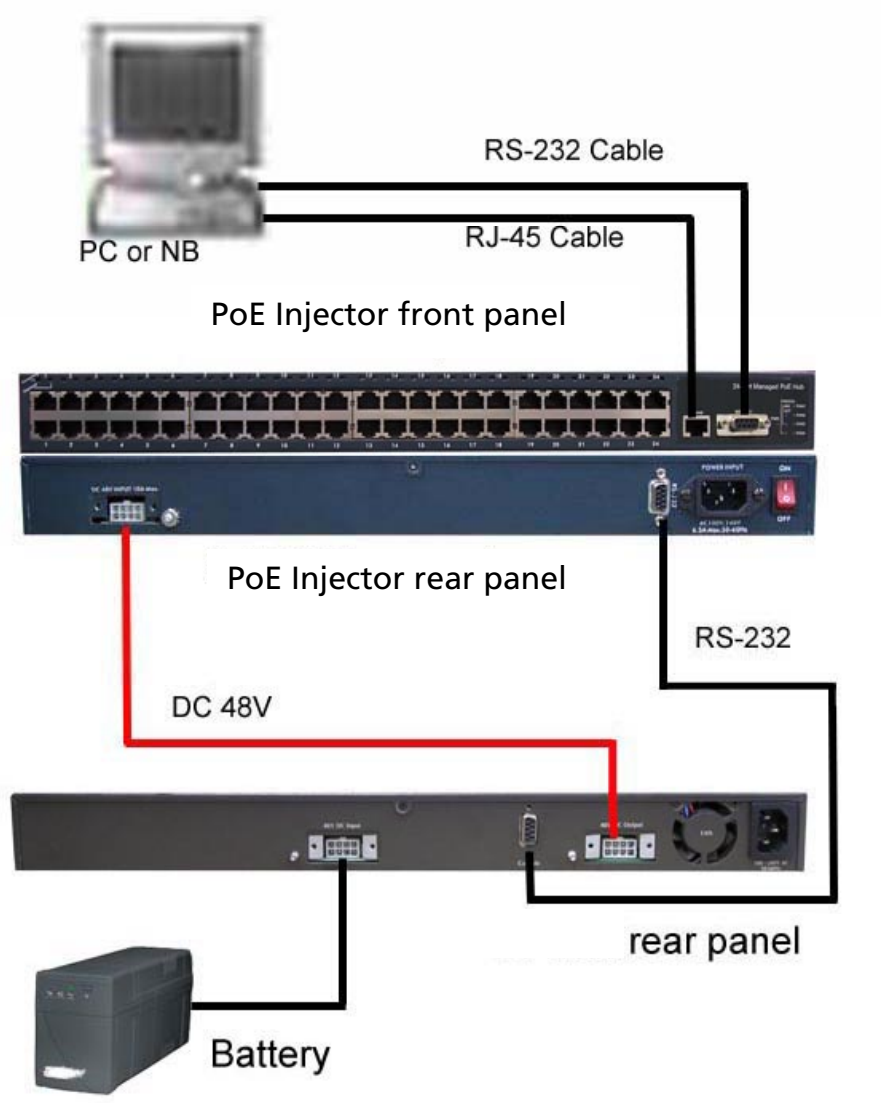


Power-over-Ethernet Injector network application

Console Management

Connecting to the Console Port

1. Attach one end of the supplied RS-232 cable to PC or terminal and the other end to the console port of the injector. The connected terminal or PC must support the terminal emulation program.
2. Connect one end of an RJ-45 cable to the Ethernet port at the front panel and the other end to PC or terminal for web interface management.

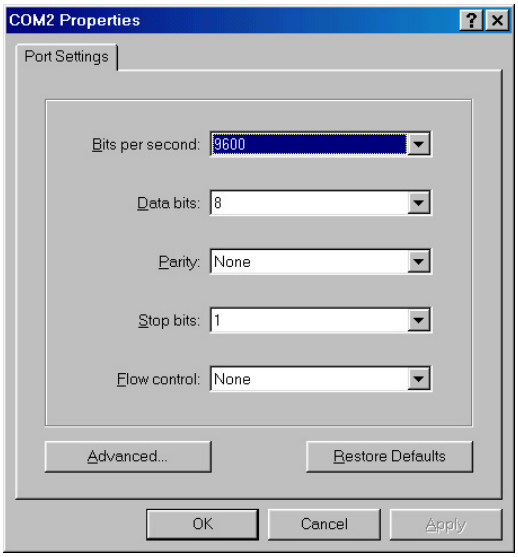


The connections among PC, PoE Injector, PoE Power Supply Unit and battery

Login in the Console Interface

When the connection between Injector and PC is ready, turn on the PC and run a terminal emulation program or **Hyper Terminal** and configure its **communication parameters** to match the following default characteristics of the console port:

Baud Rate: 9600 bps
Data Bits: 8
Parity: none
Stop Bit: 1
Flow control: None



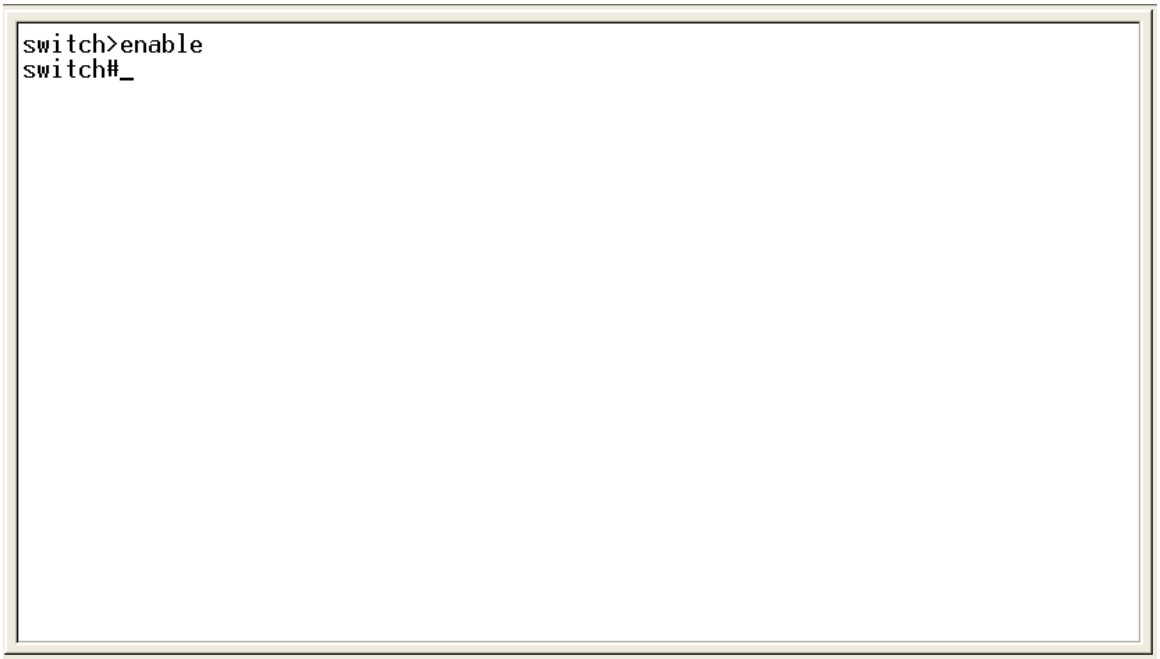
The settings of communication parameters

After finishing the parameter settings, click "**OK**". When the blank screen shows up, press Enter key to bring out the login prompt. Type the default User Name "**admin**" and default Password "**microsens**", then press Enter key and the command line interface of console management appears. Please see below figure for login screen.

Console login interface

CLI Management

The system supports the console management – CLI command. After you log in the system, you will see a command prompt. To get into CLI management interface, key in "**enable**" command or "**e**".



CLI command interface

Web-Based Management

This section introduces the configuration and functions of the Web-Based management.

About Web-based Management

On CPU board of the injector there is an embedded HTML web site residing in flash memory, which offers advanced management features and allow users to manage the injector from anywhere on the network through a standard browser such as Microsoft Internet Explorer.

The Web-Based Management supports Internet Explorer 5.0. And, it is applied for Java Applets for reducing network bandwidth consumption, enhance access speed and present an easy viewing screen.

[NOTE] By default, IE5.0 or later version does not allow Java Applets to activate sockets. In fact, the user has to explicitly modify the browser setting to enable Java Applets to operate network ports.

Preparing for Web Management

Before using web management, install the Injector on the network and make sure that any one of the PCs on the network can connect with the Injector through the web browser. The Injector default of IP, subnet mask, user name and password are as follows:

- IP Address: **192.168.16.1**
- Subnet Mask: **255.255.255.0**
- Default Gateway: **192.168.16.254**
- User Name: **admin**
- Password: **microsens**

System Login

1. Launch the Internet Explorer on the PC
2. Key in "http:// "+" the IP address of the injector", and then Press "**Enter**".

3. The login screen will appear right after.
4. Key in the user name and password. The default user name is "**admin**", the default password is "**microsens**".
5. Press "**Enter**" or "**OK**", and then the home page of the Web-based management appears as below:

Login Screen

Main menu

The picture shown below is the main menu home page.

The main menu interface

System

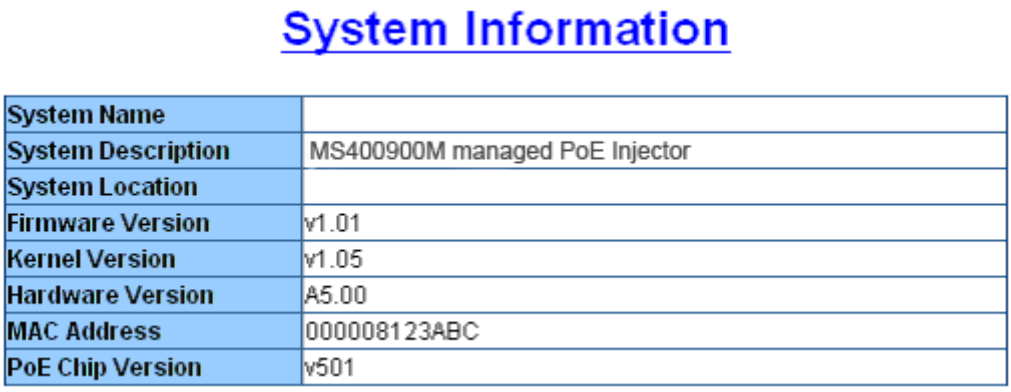
The article of **System** contains 5 sub-items, such as follows:

- **System Information**
- **Console Port Information**
- **System IP Configuration**
- **Security Manager**
- **System Log**

System Information

The System Information page displays the summary information of the switch.

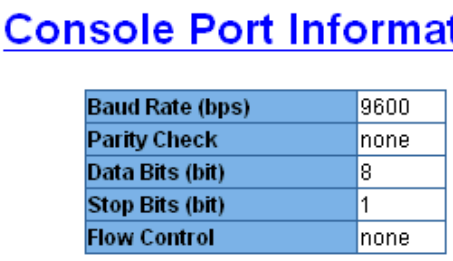
- **System Name:** Displays the name of the injector.
- **System Description:** Displays the description of the injector.
- **System Location:** Displays the injector physical location.
- **Firmware Version:** Displays the injector's firmware version.
- **Kernel Version:** Displays the kernel software version.
- **Hardware Version:** Displays the hardware version
- **MAC Address:** Displays the unique hardware address assigned by manufacturer (default)
- **PoE Chip Version:** Displays the chip version on main board.



POE Configure interface.

Console Port Information

- **Baud Rate(bps):** Displays the transmission rate (bits per second).
- **Parity Check:** Displays which parity check method is used.
- **Data Bits(bit):** Displays the number of bits per unit of data.
- **Stop Bits(bit):** Displays the number of bits for announcing the end of the data.
- **Flow Control:** Displays the method of flow control.



Console Port Information interface

System IP Configuration

User can configure the IP Settings and DHCP client function in this section.

- **DHCP Client:** Enable or disable the DHCP client function. When DHCP client function is enabled, the PoE injector will be assigned the IP address from the network DHCP server. The default IP address will be replaced by the IP address which is assigned by DHCP server. After user click Apply button, a popup dialog shows up. It is to inform the user that when the DHCP client is enabled, the current IP will lose and user should get the new IP on the DHCP server.
- **IP Address:** Assign the IP address that the network is using. If DHCP client function is enabled, and then user needn't assign the IP address manually. Instead, the network DHCP server will assign the IP address for the PoE injector and display it in this column. The default IP is 192.168.16.1
- **Subnet Mask:** Assign the subnet mask of the IP address. If DHCP client function is enabled, and then user needn't assign the subnet mask
- **Gateway:** Assign the network gateway for the PoE injector. The default gateway is 192.168.16.254

System IP Configure interface

Security Manager

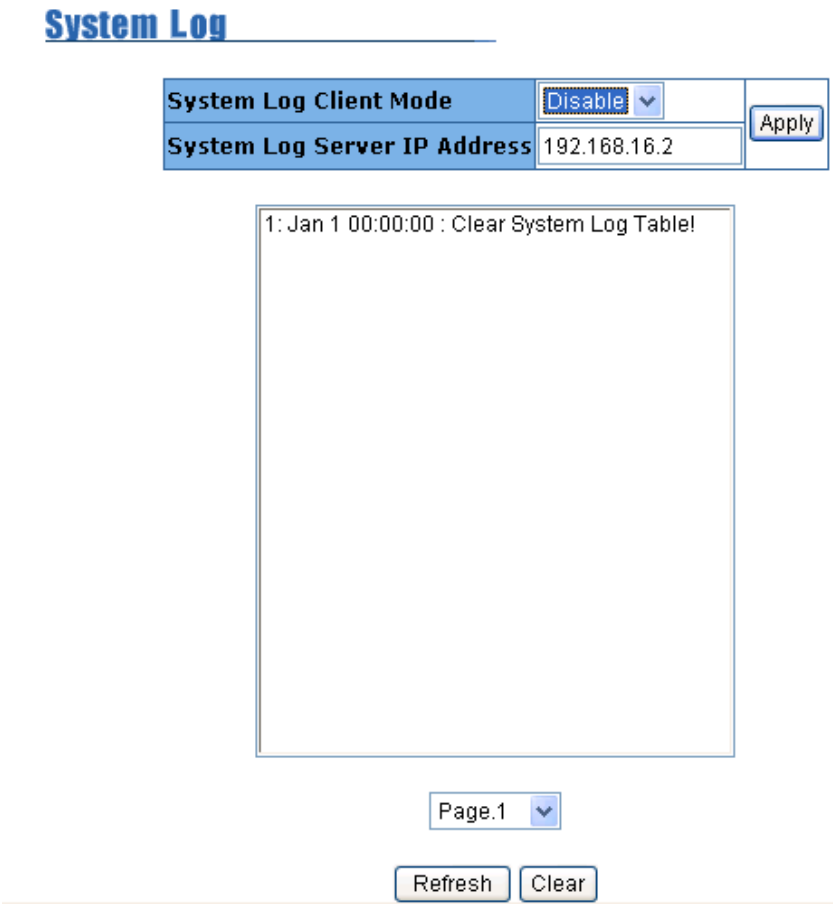
Change web management login user name and password for management security.

1. **User name:** Type in the new user name (The default is "admin").
2. **New Password:** Type in the new password (The default is "microsens").
3. **Confirm password:** Re-type the new password.
4. And then, click Apply button to make the configuration effective.

Security Manager interface

System Log

Configure the system event mode, that you want to collect, and system log server IP.



System Log interface

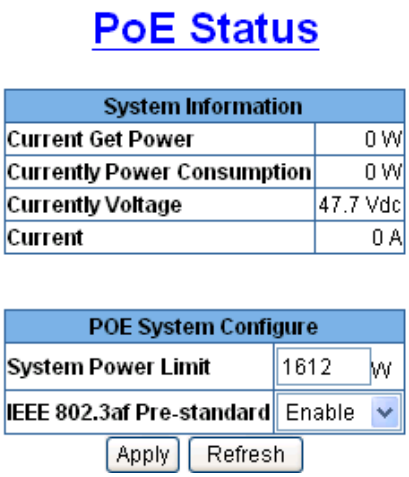
PoE

The article of **PoE** contains 5 sub-items, such as follows:

- **PoE Status**
- **Controller Temperature**
- **PoE Power Manage**
- **PoE Power Configuration**
- **PoE Port Status**

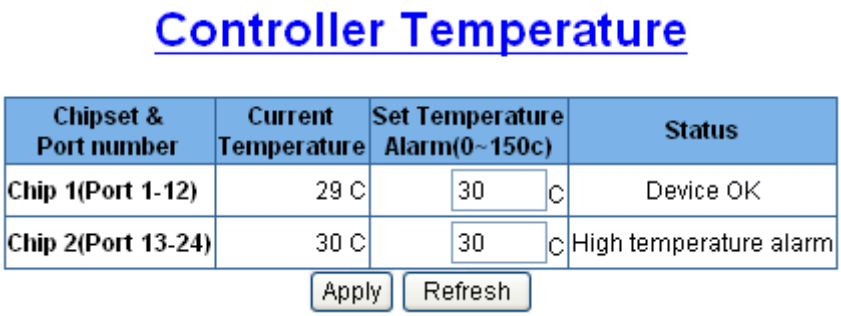
PoE Status

- **Current Get Power:** Displays the current get power (watts).
- **Currently Power Consumption:** Displays the currently power consumption.
- **Currently Voltage:** Displays the currently operating voltage.
- **Current:** Displays the loading current (ampere).
- **System Power Limit:** Displays the maximum power limit.
- **IEEE 802.3af Pre-standard:** Enable or disable IEEE 802.3af Pre-standard function. When it's disabled, the legacy powered devices will not be powered.
- Click Refresh for getting newest status, and then click Apply to make the configuration effective.



PoE Status interface

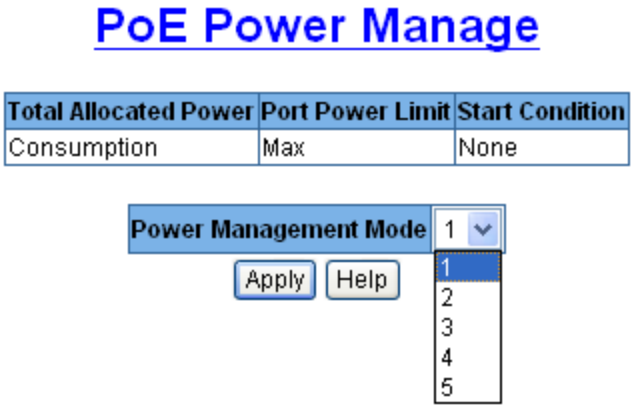
Controller Temperature



Controller Temperature interface

- **Chipset & Port number:** Displays the controller chip number or the group of ports.
- **Current Temperature:** Displays the current operating temperature of the chip.
- **Set Temperature Alarm:** Set the number of temperature in centigrade. When the operating temperature of the chip reaches the set number, the Status column will show an alarm message.
- Click Refresh to refresh the displaying state information.
- And then, click Apply

PoE Power Manage



PoE Power Manage interface

- **Total Allocated Power:** Displays the total allocated power of the PoE injector.

- **Port Power Limit:** Displays the power limit to a single port.
- **Start Condition:** Displays the type of start condition.
- **Power Management Mode:** There are 5 modes for selecting, please refer to the table below.
- And then, click Apply

Mode	Total Allocated Power	Port Power Limit	Start Condition	Management Mode
1	Consumption	Max.	N/A	Dynamic
2	Consumption	Predefined	N/A	Static
3	Consumption	Predefined	Class	
4	Class	Class	N/A	Class
5	Class	Max.	N/A	

Power Management Mode interface

Management Mode:

Dynamic - based on actual power used (mode 1).
Static - preset by user (mode 2 & 3)
Class - set classification by PD, also according to IEEE 802.3af (mode 4 & 5).

Total Allocated Power:

Consumption - sum of power consumed by all ports.
Class - sum of all ports power according to their class, except for class 0 & 4 for which the actual power consumption is summed.

Port Power Limit:

Predefined - user defined limit by port power limit.
Class - if PD's power exceeds power according to its class.
Max - full power according to 802.3af (15.4W, 44V)

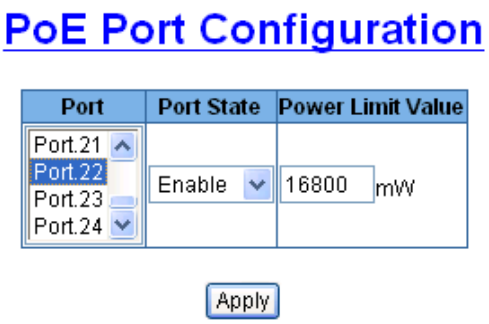
Start Condition:

N/A - no special condition.
Class - start port only, if its maximum allowed power according to its class is higher than the user defined power limit; except for classes 0-4 for which no start condition exists.

[Note]

PD **class 1** power is 4w, PD **class 2** power is 7w, PD **class 0, 3, 4** power is 15.4w.

PoE Port Configuration



PoE Port Configuration interface

- **Port:** Port 1 ~ port 24 are listed in this column for selecting.
- **Port State:** Enable or disable the selected port.
- **Power Limit Value:** Set the power limit value to the port.
- And then, click Apply

PoE Port Status

PoE Port Status

Port	Status	Forward Power	Current	Class	Event
Port.01	Forward	0.5 W	12 mA	0	Valid resistor detected
Port.02	Disconnect	0.0 W	0 mA	0	Detection is in Process
Port.03	Disconnect	0.0 W	0 mA	0	Detection is in Process
Port.04	Disconnect	0.0 W	0 mA	0	Detection is in Process
Port.05	Disconnect	0.0 W	0 mA	0	Detection is in Process
Port.06	Disconnect	0.0 W	0 mA	0	Detection is in Process
Port.07	Disconnect	0.0 W	0 mA	0	Detection is in Process
Port.08	Disconnect	0.0 W	0 mA	0	Detection is in Process
Port.09	Disconnect	0.0 W	0 mA	0	Detection is in Process
Port.10	Disconnect	0.0 W	0 mA	0	Detection is in Process
Port.11	Disconnect	0.0 W	0 mA	0	Detection is in Process
Port.12	Disconnect	0.0 W	0 mA	0	Detection is in Process
Port.13	Disconnect	0.0 W	0 mA	0	Detection is in Process
Port.14	Disconnect	0.0 W	0 mA	0	Detection is in Process
Port.15	Disconnect	0.0 W	0 mA	0	Detection is in Process
Port.16	Disconnect	0.0 W	0 mA	0	Detection is in Process
Port.17	Disconnect	0.0 W	0 mA	0	Detection is in Process
Port.18	Disconnect	0.0 W	0 mA	0	Detection is in Process
Port.19	Disconnect	0.0 W	0 mA	0	Detection is in Process
Port.20	Disconnect	0.0 W	0 mA	0	Detection is in Process
Port.21	Disconnect	0.0 W	0 mA	0	Detection is in Process
Port.22	Disconnect	0.0 W	0 mA	0	Detection is in Process
Port.23	Disconnect	0.0 W	0 mA	0	Detection is in Process
Port.24	Disconnect	0.0 W	0 mA	0	Detection is in Process

Refresh

Per Port Status interface

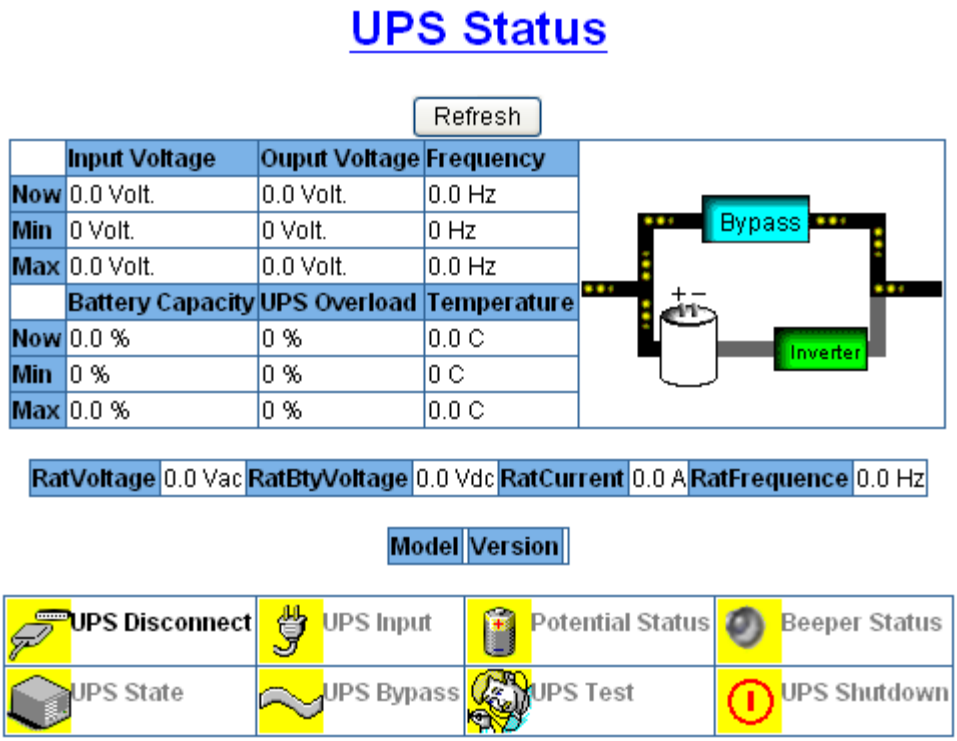
- **Port:** Displays the port number.
- **Status:** Displays the status of the port.
- **Forward Power:** Displays the forwarding power which is provided by the injector.
- **Current:** Displays the current of the port.
- **Class:** Displays the class number.
- **Event:** Displays the related events to the port.
- And then, click Refresh to get the newest information.

MISC Configuration

The article of MISC Configuration contains 5 sub-items:

- **Power Status**
- **SNTP Configuration**
- **SNMP Configuration**
- **Email Alert**
- **IP Security**

Power Status



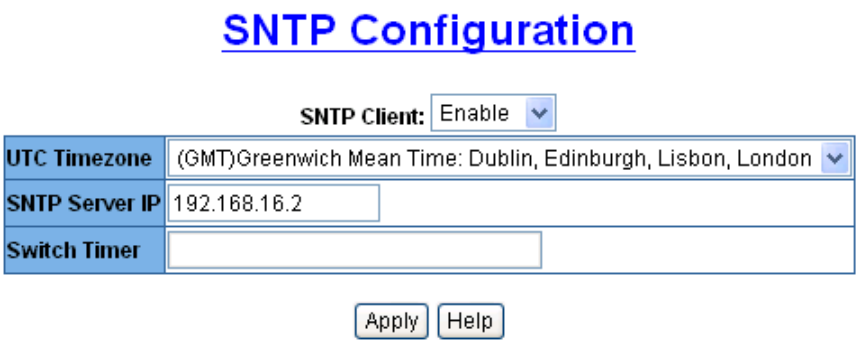
Power Status interface

- Click Fresh to get the newest information.
- **Input Voltage:** Displays the real, minimum, and maximum input voltage.
- **Output Voltage:** Displays the real, minimum, and maximum output voltage.
- **Frequency:** Displays the real, minimum, and maximum frequency.
- **Battery Capacity:** Displays the real, minimum, and maximum battery capacity.
- **UPS Overload:** Displays the real, minimum, and maximum UPS overload.
- **Temperature:** Displays the real, minimum, and maximum operating temperature.
- **RatVoltage(Vac):** Displays the Rat Voltage(Vac).

- **RatVoltage(Vdc):** Displays the Rat Voltage(Vdc).
- **RatCurrent:** Displays the RatCurrent.
- **RatFrequence:** Displays the RatFrequence.

SNTP Configuration

User can configure the SNTP (Simple Network Time Protocol) settings. The SNTP allows user to synchronize injector clocks in the Internet.



SNTP Configuration interface

- **SNTP Client:** Enable or disable SNTP function to get the time from the SNTP server.
- **UTC Timezone:** Set the injector location time zone. The following table lists the different location time zone for your reference.
- **SNTP Server IP:** Set the SNTP server IP address.
- **Switch Timer:** Displays the injector current time.

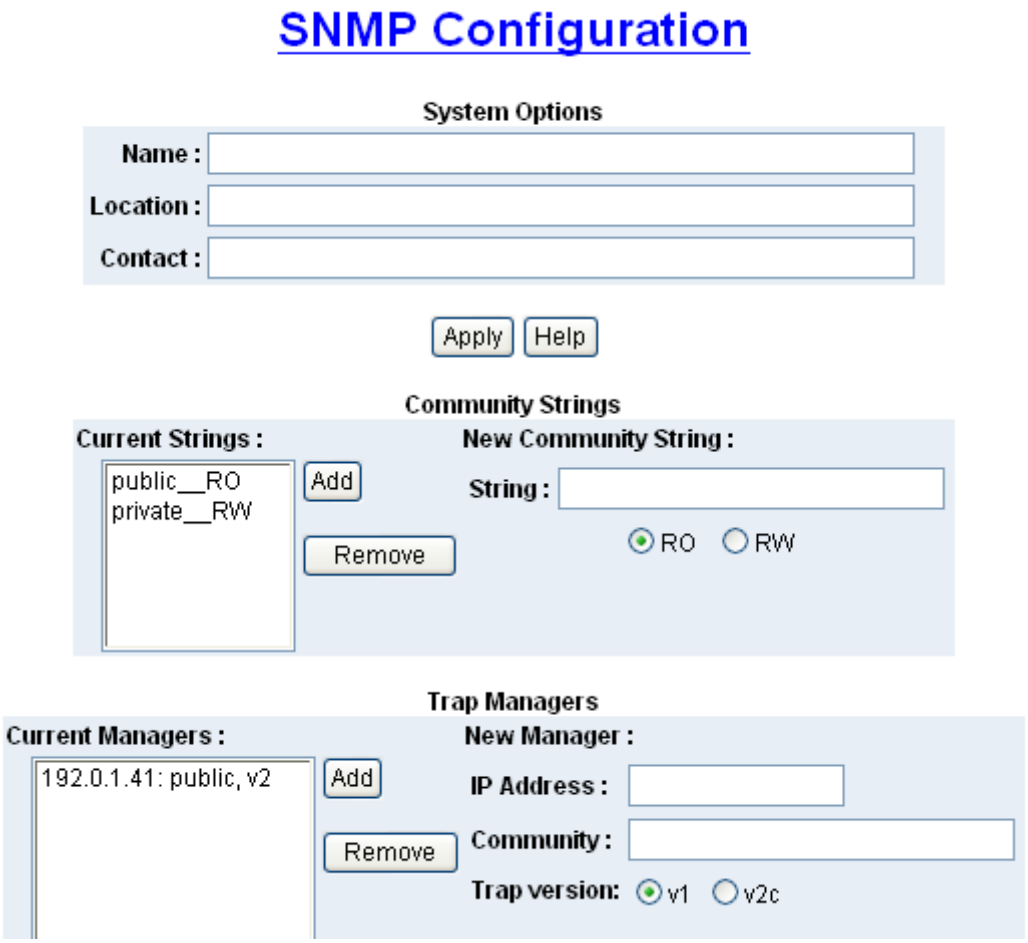
Local Time Zone	Conversion from UTC	Time at 12:00 UTC
November Time Zone	-1 hour	11am
Oscar Time Zone	-2 hours	10 am
ADT - Atlantic Daylight	-3 hours	9 am
AST - Atlantic Standard EDT - Eastern Daylight	-4 hours	8 am
EST - Eastern Standard CDT - Central Daylight	-5 hours	7 am
CST - Central Standard	-6 hours	6 am

MDT - Mountain Daylight		
MST - Mountain Standard PDT - Pacific Daylight	-7 hours	5 am
PST - Pacific Standard ADT - Alaskan Daylight	-8 hours	4 am
ALA - Alaskan Standard	-9 hours	3 am
HAW - Hawaiian Standard	-10 hours	2 am
Nome, Alaska	-11 hours	1 am
CET - Central European FWT - French Winter MET - Middle European MEWT - Middle European Winter SWT - Swedish Winter	+1 hour	1 pm
EET - Eastern European, USSR Zone 1	+2 hours	2 pm
BT - Baghdad, USSR Zone 2	+3 hours	3 pm
ZP4 - USSR Zone 3	+4 hours	4 pm
ZP5 - USSR Zone 4	+5 hours	5 pm
ZP6 - USSR Zone 5	+6 hours	6 pm
WAST - West Australian Standard	+7 hours	7 pm
CCT - China Coast, USSR Zone 7	+8 hours	8 pm
JST - Japan Standard, USSR Zone 8	+9 hours	9 pm
EAST - East Australian Standard GST	+10 hours	10 pm

Guam Standard, USSR Zone 9		
IDLE - International Date Line NZST - New Zealand Standard NZT - New Zealand	+12 hours	Midnight

SNMP Configuration

Use this page to define management stations as trap managers and to enter SNMP community strings. You can also define a name, location and contract person for the switch.



SNMP Setting interface

System Options

Enter the following information about the injector, as needed:

- **Name:** Enter a name to be used for the injector.
- **Location:** Enter the location of the PoE injector
- **Contact:** Enter the name of contact person or organization.

Community Strings

Community strings serve as password and can be entered as one of the following:

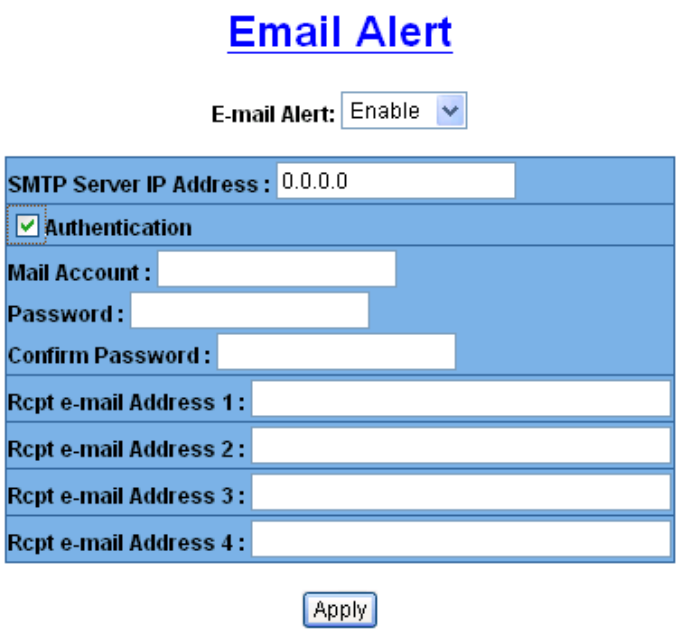
- **Current Strings:** User can remove the current strings or add new community strings.
- **New Community Strings:** Fill the column with name of string. Click Add.
- To remove the community string, select the community string that you have defined and click Remove. You cannot remove the default community string set.
- **RO:** Read only. Enables requests accompanied by this string to display MIB-object information.
- **RW:** Read/write. Enables requests accompanied by this string to display MIB-object information and to set MIB objects.

Trap Managers

A trap manager is a management station that receives traps. The management station then generates alerts based on the received traps. If no trap manager is defined, no traps will be issued. Create a trap manager by entering the IP address of the station, a community string, and selects the SNMP version.

- **IP Address:** Enter the IP address of trap manager.
- **Community:** Enter the community string.
- **Trap version:** Select the SNMP trap version type – v1 or v2c

Email Alert



Email Alert interface

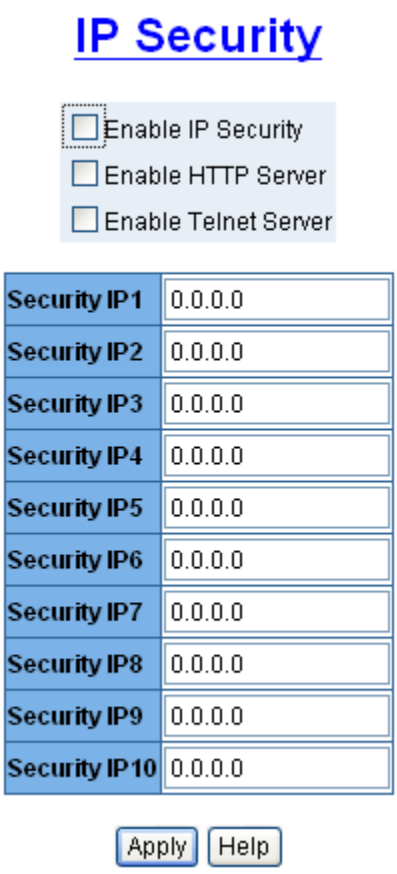
User can set up the mail server IP, mail account, password to the account, and forwarded email account for receiving the event alert.

1. **Email Alert:** Enable or disable the email alert function.
2. **SMTP Server IP:** Set up the mail server IP address (when **Email Alert** enabled, this function will then be available).
3. **Authentication:** Mark the check box to enable and configure the email account and password for authentication (when **Email Alert** enabled, this function will then be available).
4. **Mail Account:** Set up the email account to receive the alert e.g. info@microsens.com. It must be an existing email account on the mail server, which you had set up in **SMTP Server IP Address** column.
5. **Password:** The email account password.
6. **Confirm Password:** Reconfirm the password.
7. **Rcpt e-mail Address 1 ~ 4:** You can also assign up to 4 e-mail accounts to receive the alert.

IP Security

IP security function allows user to assign up to 10 specific IP addresses that have permission to access the PoE Injector through the web browser for the securing injector management.

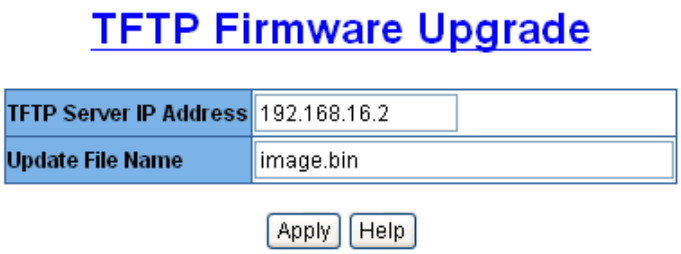
- **Enable IP Security:** Mark this check box to enable IP security function.
- **Enable HTTP Server:** When this check box is checked, the IP addresses among Security IP1 ~ IP10 will be allowed to access via HTTP service.
- **Enable Telnet Server:** When checked, the IP addresses among Security IP1 ~ IP10 will be allowed to access via telnet service.
- **Security IP 1 ~ 10:** Assign up to 10 specific IP address. Only these 10 IP address can access and manage the PoE injector through the Web browser
- And then, click Apply button to make the configuration effective.



IP Security interface

TFTP Firmware Upgrade

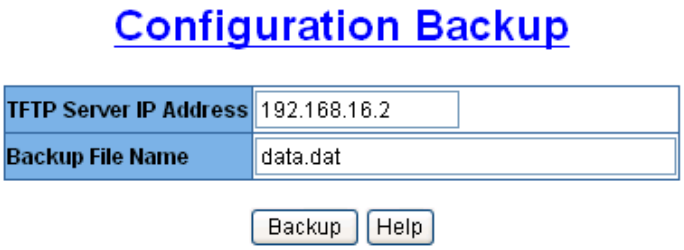
It provides the functions to allow user to update the injector firmware. Before updating, make sure you have your TFTP server ready and the firmware image is on the TFTP server.

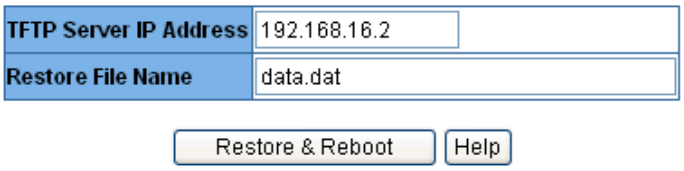


TFTP Update Firmware interface

- **TFTP Server IP Address:** Fill in your TFTP server IP address.
- **Update File Name:** Fill in the name of the firmware image file.
- Click Apply to make the configuration effective..

Configuration Backup





TFTP Update Firmware interface

- **TFTP Server IP Address:** Fill in your TFTP server IP. TFTP is the abbreviation of Trivial File Transfer Protocol.

- **Backup File Name:** Fill in the name of the backup file with a file extension.
- And then, click Backup button.
- **TFTP Server IP Address:** Fill in your TFTP server IP.
- **Restore File Name:** Fill in the name of the restore file with a file extension.
- And then, click Restore & Reboot button to restore and reboot for making the restored configuration effective.

Save Configuration

Save all configurations that you have made in the system. If you want to keep the configuration after reboot injector, click Save Configuration button to save the all configuration to the flash memory.

Save Configuration interface

Factory Default

Reset injector to default configuration. Click Default button to reset all configurations back to the default value.

Factory Default interface

System Reboot

Reboot the injector in software reset. Click Reboot button to reboot the system.

System Reboot interface

Technical Specification

This section provides the specifications of 24-port Power-over-Ethernet Injector and the following table lists these specifications.

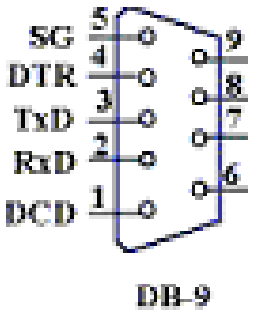
Standard	IEEE802.3af Power-over-Ethernet
Connector	**Data in:** 24 x RJ-45, Data pin 1,2,3,6 **Data and power out:** 24 x RJ-45. Data pin 1,2,3,6 Power pin (V+): 4, 5, Power pin (V-): 7, 8
Power out put	Deliver 48VDC to PD
Management	SNMP, Telnet, Command line interface and Web management
Power-over-Ethernet mode	Mid-Spain
Management utility	Support Microsoft windows based application for power management
PoE System Configuration	IEEE802.3af and Pre-standard selection, Show system power voltage, current, power consumption. Temperature and power consumption limiting setting.

PoE Port Configuration	Port Disable / Enable Port Monitoring Power limiting rule setting
PoE Port Status	Port status Currently feeding power, current, detected class. Shows the cause of port off (AC off of disconnecting, DC off of disconnecting, PDU off of disconnecting , off of over loading, off of short circuit, off of Over Temperature protection, Power management –Port off)
LED	**System:** Power **Per port:** Forwarding, Overload **Console port:** FDX/COL, LINK, ACT **Fan:** FAN1, FAN2, FAN3, FAN4
Power	AC 100~240V, 50/60 Hz, 400 Watts DC input 48V
Power consumption	407 Watts (maximum) @ AC 110V
Cooling	4 x DC fan with fault detect function
Operating environment	0•~45•, 5%~95%RH
Storage temperature	-40•~70•, 95% RH
Dimension	440mm x 225mm x 44mm (W x D x H)
EMI	Compliance with FCC Class A, CE
Safety	Compliance with UL, cUL, CE/EN60950-1

Appendix A

Console Port Pin Assignments

The female DB-9 serial port on the PoE injector front panel is used to connect to a PC or terminal for console configuration. The web interface configuration program can be accessed from PC running the system utility program. The pin assignments used to connect to the serial port are provided in the following tables.



DB-9 Console Port Pin Numbers

DB-9 Port Pin Assignments

EIA Circuit	CCITT Signal	Description	Switch's DB9 DTE Pin #	PC DB9 DTE Pin #
BB	104	RxD (Received Data)	2	2
BA	103	TxD (Transmitted Data)	3	3
AB	102	SGND (Signal Ground)	5	5

No other pins are used

Console Port to 9-Pin DTE Port on PC

Switch's 9-Pin Serial Port	CCITT Signal PC's 9-Pin	DTE Port
2 RXD	<---------RXD ----------	3 TxD
3 TXD	----------TXD ---------->	2 RxD
5 SGND	----------SGND ----------	5 SGND

No other pins are used.

RJ-45 pin assignment of non-802.3af standard PD with Mid-Spain POE INJECTOR RJ-45 pin assignment

- **Pin out of Cisco non-802.3af standard PD**

Pin	Signal
1	RX+
2	RX-
3	TX+
4	VCC -
5	VCC -
6	TX-
7	VCC +
8	VCC +

- **Pin out of POE Mid-Spain Injector**

Pin	Signal / Name
1	RX+
2	RX-
3	TX+
4	VCC+
5	VCC+
6	TX-
7	VCC-
8	VCC-

Before you powered PD, please check the RJ-45 connector pin assignment follow IEEE802.3af standard, otherwise you may need change one of the RJ-45 connector pin assignment, which attached with the UTP cable.

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